Description

The P9382A is a highly-integrated single-chip wireless medium power transmitter/receiver IC (TRx). The device can be configured to receive or transmit an AC power signal through magnetic induction. When the device is configured as a wireless power transmitter, it uses on-chip full/half-bridge inverter, PWM generator, modulator/demodulator for communication and micro controller to produce an AC power signal to drive external L-C tank. As a receiver, the device receives an AC power signal from a wireless transmitter and converts it into rectified output voltage, which can be used to power devices or supply the charger input in mobile applications. The P9382A integrates a high-efficiency Synchronous Full Bridge Rectifier and control circuitry to modulate the load to send message packets to the Transmitter (Tx) to optimize power delivery.

The P9382A feature Multiple-time programmable (MTP) non-volatile memory to easily update control firmware and device functions.

The device includes over-temperature and voltage protection. Fault conditions associated with power transfer are managed by an industry-leading 32-bit ARM® Cortex®-M0 processor offering high level of programmability while consuming extremely low standby power to minimize power losses and heat generation. The processor can also control GPIOs to indicate operating and fault modes. The P9382A is available in an ultra-small 53-DSBGA package.

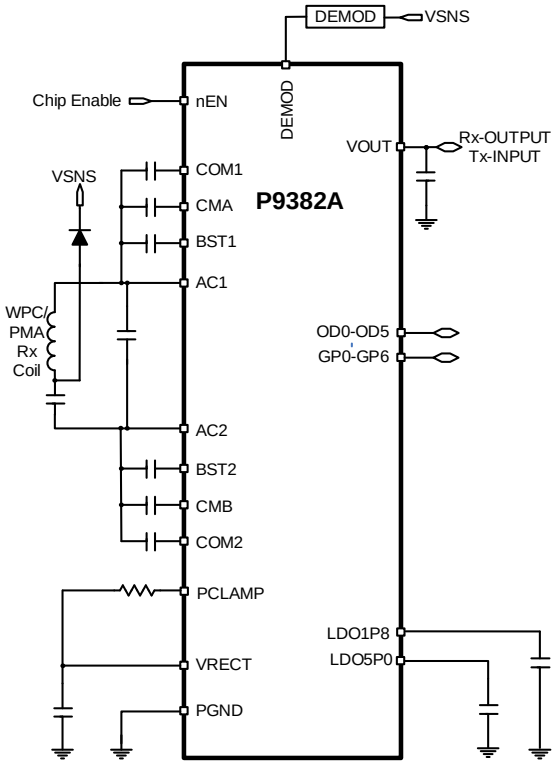
Typical Applications

- Wireless power Rx, Tx, TRx solution for mobile applications
- Mobile phones
- Notebooks and tablets
- Water or dust proof portable devices
- Smart home and IoT devices

Features

- Single-chip medium power wireless solution
- Multiple-time programmable (MTP) non-volatile memory
- WPC 1.2.4 compatible
- Delivers up to 20W as a receiver
- TRx mode with up to 6W Tx capability
- Embedded 32-bit ARM® Cortex®-M0 processor
- Reliable over voltage clamping
- Best in class EMI
- Proprietary Rx-to-Tx modulation/demodulation for two-way communication
- High-performance LDO
- Tx-to-Rx (backchannel) communication
- Supports proprietary mode magnetic induction wireless power solutions
- Supports I2C 400kHz standard interface and GPIOs
- Package:
  - 6 × 9 ball array, 2.80 × 4.0mm, 53-DSBGA package with 0.4mm ball pitch

Typical Applications Diagram



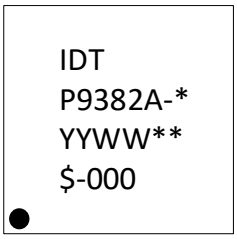
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1. Package Outline Drawings

The package outline drawings are appended at the end of this document and are accessible from the link below. The package information is the most current data available.

www.idt.com/document/psc/53-dsbga-package-outline-drawing-2800-x-4010-x-0600-mm-body-040-mm-pitch-ahg53d1

2. Marking Diagram



1. The IDT Company Logo
2. The part number.
3. “YYWW” is the last 2 digits of the year and week that the part was assembled. “**” denotes sequential lot number.
4. “$” denotes assembly mark code. ”000” denotes dash code.

3. Ordering Information

Orderable Part Number	Package	MSL Rating	Shipping Packaging	Ambient Temperature
P9382A-0*AHGI8	2.80 × 4.00 × 0.4 mm pitch, 53-DSBGA	MSL 1	Tape and Reel	-40° to +85°C

* Note: This field is a custom value that is specific to each customer application. Please contact your local sales team for your particular value for this field.

4. Revision History

Revision Date	Description of Change
July 17, 2019	Initial release.